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CERTIFICATE OF MAIL

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to MAIL STOP DD, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450, on the following date: November 01, 2004.

/Wendy Buskop/
Wendy Buskop

MAIL STOP DD
Commissioner of Patents
PO Box 1450
Alexandria, VA 22313-1450

RE: *U.S. Patent Application Serial No. 10/721,983;*
Entitled: "Method for Deriving a Graz Seismic Attribute File;" and
Inventors: Michael John Padgett.

Sirs:

Enclosed for filing in the above-mentioned application is:

(1) An Information Disclosure Statement;

(2) A Form PTO-1449 listing references A1-A6; and

(3) A postcard. Please date stamp and return the enclosed postcard to evidence receipt of these materials.

No fees are believed to be due in connection with these materials. However, the Commissioner is hereby authorized to charge any deficiencies to Deposit Account No 50-1313 in the name of Buskop Law Group. A duplicate copy of this transmittal is enclosed.

Respectfully submitted,

Wendy K. B. Buskop
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Michael John Padgett

Group Art Unit: Not Assigned

Serial No.: 10/721,983

Examiner: Not Assigned

Filed: November 25, 2003

For: Method for Deriving a Graz Seismic Attribute File

Atty Dkt No.: 771.012

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Wendy K. B. Buskop

MAIL STOP DD
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PO Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

I. Applicants hereby submit an Information Disclosure Statement and enclose a Form PTO-1449 listing references for consideration by the Examiner. A copy of the Reference is not enclosed.

II. Applicants hereby request the Examiner to consider each cited reference. As required under 37 C.F.R. § 1.98(a)(3)(i), the following are concise explanations of the relevance of each reference, as they are presently understood:

REFERENCE A1 (US 5,430,689 - Rigsby): "A method of performing a marine seismic survey is disclosed Seismic receivers, either hydrophones or geophones, are deployed in a set of parallel lines in the survey area. The acoustic energy is generated from a conventional marine seismic source towed by a vessel traveling in paths which are substantially perpendicular to the lines of receiver stations. The paths may pass over the lines of receiver stations, and may also pass outside of the receiver area. Alternative embodiments are disclosed which include sequencing of multiple sets of receiver station lines with one another, so that shots fired along different segments of the path correspond to the different sets of receiver stations. In addition, multiple sources may be towed and alternatively fired, to improve the survey efficiency."

REFERENCE A2 (US 5,583,825 – Carrozzone): "A method for deriving reservoir lithology and fluid content for a target location from pre-stack seismic reflection data. The method uses inversion of pre-stack seismic reflection data for both the target location and a calibration location having known subsurface lithology and fluid content to derive the subsurface lithology and fluid content at the target location. The inversion process is preferably a viscoelastic inversion to account for the effects of friction on seismic wave propagation. The results of the inversion process are a set of subsurface elastic parameters for both the target and calibration locations. Relative magnitudes of these subsurface elastic parameters are compared, together with the known subsurface lithology and fluid content at the calibration location, to derive the subsurface lithology and fluid content at the target location."

REFERENCE A3 (US 5,930,730 – Marfut): "A method, a map and an article of manufacture for the exploration of hydrocarbons. In one embodiment of the invention, the method comprises the steps of: accessing 3D seismic data; dividing the data into an array of relatively small three-dimensional cells; determining in each cell the semblance/similarity, the

dip and dip azimuth of the seismic traces contained therein; and displaying dip, dip azimuth and the semblance/similarity of each cell in the form a two-dimensional map. In one embodiment, semblance/similarity is a function of time, the number of seismic traces within the cell, and the apparent dip and apparent dip azimuth of the traces within the cell; the semblance/similarity of a cell is determined by making a plurality of measurements of the semblance/similarity of the traces within the cell and selecting the largest of the measurements. In addition, the apparent dip and apparent dip azimuth, corresponding to the largest measurement of semblance/similarity in the cell, are deemed to be estimates of the true dip and true dip azimuth of the traces therein. A color map, characterized by hue, saturation and lightness, is used to depict semblance/similarity, true dip azimuth and true dip of each cell; true dip azimuth is mapped onto the hue scale, true dip is mapped onto the saturation scale, and the largest measurement of semblance/similarity is mapped onto the lightness scale of the color map."

REFERENCE A4 (US 6,131,071 – Partyka): "The present invention is directed generally toward a method of processing seismic data to provide improved quantification and visualization of subtle seismic thin bed tuning effects and other sorts of lateral rock discontinuities. A reflection from a thin bed has a characteristic expression in the frequency domain that is indicative of the thickness of the bed: the reflection has a periodic sequence of notches in its amplitude spectrum, with the notches being spaced a distance apart that is inversely proportional to the temporal thickness of the thin bed. Further, this characteristic expression may be used to track thin bed reflections through a 3-D volume and estimate their thicknesses and lateral extent. The usefulness of this invention is enhanced by a novel method of frequency domain whitening that emphasizes the geologic information present within the spectrum. Although the present invention is preferentially applied to a 3-D seismic volume, it is alternatively applied to any collection of spatially related seismic traces. "

REFERENCE A5 (US 6,292,754 – Thomsen): "The instant invention pertains generally to a method of seismic processing of multi-component converted wave 2-D and 3-D seismic data, wherein the seismic traces in each CCP gather may have been acquired at a variety of different source-receiver azimuths. According to one aspect of the instant invention there is provided a method of using recorded multi-component seismic data to determine an estimate of the orientation of the two principle coordinate axes of a subsurface medium, with this determination potentially being made in each seismic survey bin, and for each depth. Given this estimate, the seismic data may then be transformed via rotation into the coordinate system so defined, and thereafter processed using conventional algorithms (e.g., to produce velocity functions and images). Another embodiment of the instant invention uses a given principle coordinate axis orientation--which might have been obtained via the previous embodiment--to calculate a "best" data reduction of the traces in the CCP. In either case, the present invention additionally solves the problem of deducing the principal times series and provides a means of combining multi-azimuth multi-component CCP gathers for further conventional scalar processing. Those skilled in the art will appreciate that the methods disclosed below would be especially useful in 3-D surveys and in 2-D crooked line surveys."

REFERENCE A6 (US 6,463,387 - Runnestrand): "In accordance with the present invention, there is disclosed herein a method of seismic interpretation that is designed to improve the quality and speed with which an explorationist can pick and interpret a seismic section or volume. The instant invention utilizes unseeded picking to create a collection of patches or areas of similar-character reflector picks. The method is unsupervised initially and builds an output database that preferably contains the time and amplitude of each "assigned" event, an assigned event being a seismic reflection that is determined to be similar in some sense to its neighboring traces. Then, during subsequent interpretation the explorationist quickly builds an interpretation by utilizing and selecting from the pre-assembled collections of similar traces stored in the database."

III. No fees are believed to be due in connection with these materials. This Information Disclosure Statement is being filed prior to receipt of an official Office Action.

Date: November 01, 2004

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Form PTO 1449	U.S. Department of Commerce Patent and Trademark Office	Serial No.: 10/721,983	Group Art Unit: Not Assigned
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)		Filing Date: November 25, 2003	
		Applicant(s): Michael John Padgett	
		Atty. Docket No.: 771.12	

A REFERENCE - U.S. PATENT DOCUMENTS

Document Number	Examiner Initial*	Patent Number	Date	Name	Class	Sub Class	Filing Date If Appropriate
A1		5,430,689	07/04/1995	Rigsby	367	15	07/03/1991
A2		5,583,825	12/10/1996	Carrozzone	367	31	09/02/1994
A3		5,930,730	07/27/1999	Marfut	702	16	09/13/1996
A4		6,131,071	10/10/2000	Partyka	702	16	01/19/1999
A5		6,292,754	09/18/2001	Thomsen	702	14	11/11/1999
A6		6,463,387	10/08/2002	Runnestrand	702	16	01/31/2001

B REFERENCE - FOREIGN PATENT DOCUMENTS

Document Number	Examiner Initial*	Patent Number	Date	Country	Class	Sub Class	Translation	
							Yes	No
B1								
B2								

C REFERENCE - OTHER DOCUMENTS (Including Author, Title, Date, Pages, Etc.)

Document Number	Examiner Initial*	Other Documents Citation
C1		
C2		

Examiner:	Date Considered:

*Examiner:	Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.